

**IN THE UNITED STATES DISTRICT COURT FOR
THE DISTRICT OF SOUTH CAROLINA**

IN RE: PELLA CORPORATION	:	MDL Docket No. 2514
ARCHITECT AND DESIGNER SERIES	:	THIS DOCUMENT RELATES TO
WINDOWS MARKETING, SALES	:	ALL ACTIONS
PRACTICES AND PRODUCTS LIABILITY	:	
LITIGATION	:	
	:	

MEMORANDUM OF LAW IN SUPPORT OF DEFENDANT PELLA CORPORATION'S
MOTION TO EXCLUDE EXPERT TESTIMONY BY MICHAEL LOUIS,
DANIEL CLARK, AND ANDREW FAULKNER

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INTRODUCTION

Plaintiffs own Pella Architect Series and Designer Series clad casement windows. During the 1997-2007 purported class period, the relevant windows had a collective complaint rate of less than 1% for wood deterioration, and *Consumer Reports* awarded Designer Series windows its highest rating for rain resistance and second-highest rating for durability. *Windows: Clear Choices*, Consumer Reports (October 2007), attached as Ex. 35. Nevertheless, engineers from Simpson, Gumpertz, and Heger (“SGH”), retained by plaintiffs’ attorneys for purposes of class litigation, examined a few of these windows from a group of named plaintiffs as directed by counsel. The examinations turned into a proposed expert report that makes the following claims:

1. Plaintiffs’ windows allegedly allow water penetration in one of five ways:
 - a. Water bypasses the sash rain strip exposing the sash perimeter to moisture;
 - b. Water bypasses the sash and frame cladding, exposing the sash and frame to moisture;
 - c. Water leaks between the sash and frame gasket when the sash is not fully compressed against the frame;
 - d. Glazing sealant failure exposes the wood sash within the glazing pocket to moisture; and
 - e. Ineffective sealant at the frame corner exposes wood in the frame corner and interior building materials below the frame corner to moisture.
2. Plaintiffs’ windows are allegedly defective because Pella either used an improper wood preservative or applied the preservative in a variety of ways that SGH believes was improper such that it did not prevent wood deterioration;
3. *Every* Pella Architect Series or Designer Series casement window manufactured between 1997 and 2007 shares these same defects, notwithstanding the multiple and varied design elements, materials and manufacturing processes that changed over time, impacting the water management features identified by SGH.

(See SGH Rpt., attached as Ex. 1.) SGH’s opinions should be excluded as unsupported by sufficient and reliable data and the result of unreliable methods.

First, SGH admits it did not evaluate Plaintiffs’ homes for any potential cause of alleged leakage other than alleged window defects, relying solely on non-industry-standard testing

methods that ignored real world conditions. This failure to consider alternative causes contravenes Federal Rule of Evidence 702, and demonstrates nothing useful to the trier of fact.

Second, under Rule 702 scientific or technical testimony is admissible only if the witness is qualified as an expert in the relevant field, but the SGH report authors lack any qualifications regarding wood preservatives or wood science. SGH's opinions also are not supported by reliable facts or data or reliable methodology, in contravention of *Daubert*, as SGH admits they did not determine whether the wood treatment processes they criticize actually were used on Plaintiffs' windows. SGH claims, without explanation, that windows exhibiting water stains must have defective wood preservative even if the windows remained perfectly structurally sound. Yet SGH admits that not all water staining is a defect, and that its destructive testing did not reveal *any* actual wood deterioration. SGH thus provides no criteria for determining which, if any, of Plaintiffs' windows really had problems, and its purported assessment of the seriousness of the staining is not based on any methodology at all, let alone a reliable one.

SGH's conclusory leap from its small sample to the enormous class is also unsupported by any reliable methodology, as required by *Daubert*. Having performed or observed destructive testing on 23 windows, and having conducted non-industry-standard spray testing (equivalent to more than 36 inches of rain per hour) on 98 windows of a handful of plaintiffs who are suing Pella, SGH claims there are uniform defects in all of the 7.5 million Architect Series or Designer Series clad casement windows that Pella manufactured between 1997 and 2007. SGH offers no analysis to support this speculation, or to address the glaring statistical deficiencies in it.

Finally, SGH and Plaintiffs violated this Court's orders and spoliated evidence by (1) tearing apart and cutting up one of Romig's windows, (2) destroying and replacing trim and wall parts during water testing, and (3) removing the aluminum cladding from 22 windows—all

without allowing Pella representatives to be present despite Pella's repeated requests. This independently warrants exclusion of the entire report, but at a minimum the opinions regarding the Romig home and the windows with removed aluminum cladding must be excluded.

FACTS

I. The SGH Report.

Plaintiffs served one expert report signed by three SGH engineers —Michael Louis, Daniel Clark, and Andrew Faulkner. It can be summarized as follows.¹

A. Document Summaries.

The first 47 pages of the report (following the introduction) quote test standards and documents with little or no analysis. (*See* SGH Rpt. at 3-50, attached as Ex. 1.)

B. Inspection and Testing Reports.

In less than two pages (*id.* at 51-52), the report narrates that SGH conducted “window inventories” on 22 houses totaling 336 Pella windows (*Id.* at 51), and “reviewed the condition of wood sash components outboard of the frame gasket” on 18 houses totaling 252 Pella windows (*id.* at 52). In another two pages (*id.* at 52-54), it recounts two different kinds of water-spray tests SGH conducted on a few dozen windows each. (*Id.* at 52-53 & App. C.)

First is what the report describes as “ASTM E1105—Spray Rack Testing.”² ASTM International is an organization of technical experts and professionals that develops and delivers voluntary consensus standards.³ Its protocol E1105 is entitled *Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Curtain Walls, and Doors by*

¹ In many instances, the report contradicts itself and/or the field notes produced by SGH. In others, the report is unsupported by any field notes, or omits results from tests the notes indicate occurred. Pella takes the report at face value for this motion, but reserves the right to use these inconsistencies to impeach them if they are admitted for any purpose.

² ASTM (American Society for Testing and Materials) is now ASTM International.

³ ASTM International, Detailed Overview, http://www.astm.org/ABOUT/full_overview.html

Uniform or Cyclic Static Air Pressure Difference. (Attached as Ex. 5.) ASTM E1105 *is not* specified for diagnosing the sources of observed water leakage, but instead

is a standard procedure for determining the resistance to water penetration under uniform or cyclic static air pressure differences of installed exterior windows . . . The air-pressure differences acting across a building envelope vary greatly. These factors should be considered fully prior to specifying the test pressure difference to be used.

Ex. 5 at § 1.2. It calls for spraying water at a 5 gallons per square foot per hour rate (to simulate extreme rainfall), while maintaining an air pressure differential on opposite sides of the window (to simulate wind driving the rain into the window).⁴ (*See id.*) ASTM notes that the five-gallon-per-hour rate simulates a rainfall of eight inches per hour, which is considerably greater than “the greatest rainfall for a 1-h[our] period” in the contiguous 48 United States. (*Id.* at § 6.2.4, Note 3.)

SGH, however, did not actually use the ASTM E1105 testing criteria. At his deposition, Mr. Faulkner explained that SGH modified the criteria, although it did not document each and every modification. (Faulkner Dep. at 86:7-87:3, attached as Ex. 3.) SGH did not use E1105’s definition of a leak in its testing. (*Id.* at 67:16-19, 69:6-9.) Most significantly, although SGH’s report does not explain how it selected what pressure to apply, Mr. Clark explained in his deposition (Clark Dep. at 138:6-20, attached as Ex. 4) that they selected air pressures with reference to AAMA (American Architectural Manufacturing Association) Standard 502, *Voluntary Specification for Field Testing of Newly Installed Fenestration Products*. As its title indicates, AAMA 502 “is applicable **during construction, prior to issuance of the building occupancy permit** but no later than six months after installation of the fenestration product.” (AAMA 502-11 at § 1.1, attached as Ex. 8 (emphasis added).) For occupied buildings such as Plaintiffs’ houses, AAMA 502 requires that a different standard, “AAMA 511[,] shall be used.”

⁴ ASTM E1105 itself does not define the appropriate air pressure differential.

Id. AAMA Standard 511, entitled *Voluntary Guideline for Forensic Water Penetration Testing of Fenestration Products*, requires investigators to “calculate the approximate differential air pressures the suspect specimens experienced during actual wind-driven rain events,” and provides guidelines for calculating this pressure, “which is the maximum differential air pressure the fenestration product shall be subject to during the investigative testing.” (AAMA 511 § 4.2.1.1, attached as Ex. 9.) It expressly cautions against “inappropriate field testing adaptations to AAMA 502,” and notes that “[a] common incorrect adaption” is testing with “differential pressure ... higher than the pressures the fenestration products routinely experienced during wind-driven rain events that produced water penetration. **Field testing at these high pressures may result in new leaks and the false conclusion that the fenestration product is the cause of all of the reported water penetration.**” (*Id.* n.4.)

SGH did not heed these warnings. It elected not to follow AAMA 511, either generally or in determining the appropriate air pressure. (Ex. 3 at 126:6-13, 128:4-12; Ex. 4 at 139:5-8.) AAMA 502 § 4.9, attached as Ex. 7, specifies that water resistance tests *for new windows* be conducted at “2/3 (.667) of the test pressure designated for the applicable product” but SGH made the decision to use higher pressures to test Plaintiffs’ several-years-old windows. The report states that SGH “performed a series of tests at zero pressure, one third of the design test pressure, two thirds of the design test pressure, and full test pressure.” (Ex. 1 at 52-53.) SGH’s report cites to no standard to explain its use of “full test pressure”—a level exceeding by 50% the AAMA 502 pressure for new windows—or why it ignored the correct AAMA 511 protocol.

The SGH report also cites an “AAMA Nozzle Test.” (*Id.* at 53.) SGH reports that it calibrated a nozzle “according to AAMA 501.2.” (*Id.*) AAMA Standard 501.2, entitled *Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls,*

and Sloped Glazing Systems, is intended “to provide a quality assurance and diagnostic field water check method” for those building components. (AAMA 501.2 at §1.0, attached as Ex. 6.) No windows tested in Plaintiffs’ homes are storefronts, curtain walls (i.e. the outer covering of a commercial building), or sloped glazing systems (i.e. windows installed at a slope of more than 15 degrees); they are primarily operable windows (i.e. casement windows that do or have the ability to crank in and out). AAMA 501.2 states that the protocol “***is not appropriate for testing of ... operable windows.***” (Ex. 6 at § 1.0 & Note 1 (emphasis added).)

SGH used its “AAMA Nozzle” according to an undocumented testing protocol that is not published anywhere, but that SGH formulated for purposes of this case (and other litigation).⁵ SGH purported “to further isolate leakage paths” by aiming the nozzle directly at specific parts of the window. (Ex. 1 at 53.) Without citing any guideline or standard, SGH reports that it targeted the windows with “1-2 psi” of water pressure, or at “<1 psi ... to evaluate leakage between the sash and frame.” (*Id.*) According to SGH, the nozzle at 1-2 psi sprayed water onto an isolated portion of the window at approximately 22.8 gallons per square foot per hour (Louis Dep. at 131:1-132:22, attached as Ex. 2) — equivalent to more than 36 inches of rain per hour, and at a minimum more than four times the rate that ASTM E1105 prescribes to reproduce a record eight-inch-per-hour rainfall. SGH reports that 67% of tested windows leaked under the overpressurized “E1105” testing, and 91% leaked under the SGH-created “AAMA nozzle” test. (Ex. 1 at 54.)

The SGH witnesses admit they did not evaluate potential alternative causes of water infiltration into the Plaintiffs’ homes such as installation error or construction defects:

⁵ Ex. 2 at 109 (“there is no document” describing how to do SGH’s nozzle test); 113:7-8 (“[O]ur testing protocols develop or morph, whatever you want to call it.”).

- Q. At any of the homes that you visited, did you do any analysis of installation issues or general construction issues of the home or were you just focused on the windows?
- A. Our primary task was to focus on the windows. I mean, that's what we were reviewing. We weren't establishing whether or not the windows were installed with, you know, adjacent construction. We were trying to document leakage paths solely related to the window itself separate from installation and surrounding construction.
- Q. But you'll agree that window installation can have an impact on the performance of the window?
- A. Yes. And generally speaking, window installation could have an effect on window performance.

(Ex. 4 at 213:10-214:6; *see* Ex. 2 at 137:7-22, 176:11-177:10, 187:11-18, 336:11-16.)

C. Plant Tours.

The SGH report describes tours that the authors took of Pella's manufacturing plants in January 2015 at multiple locations (including plants manufacturing double-hung windows that are excluded from SGH's opinions and from the class claims). (Ex. 1 at 55.) The report describes various manufacturing processes the authors witnessed on that day. (*Id.*) At his deposition, Mr. Louis acknowledged that these plant-tour observations cannot be connected with the manufacturing methods used for Plaintiffs' windows, or with the standard work instructions and operating procedure documents produced by Pella. That is because SGH has "nothing to say that" Pella "employ[ed] the same methodology" for manufacturing windows "at the time of our visit" as it did during the 1997-2007 period "bracketed by our study." (Ex. 2 at 230:18-231:1.)

D. Pella Warranty Data.

The report describes Pella's returns and allowances (R&As) data collected in connection with Pella's warranty program. (Ex. 1 at 69.) SGH calculated that the average R&A wood deterioration rate for casement, awnings and transom windows manufactured from 1997-2007 was only 0.87% for Architect Series and 0.48% for Designer Series. (*Id.*) The report speculates that actual deterioration rates might be higher (*id.* at 70), but none of the SGH witnesses claim to

have expertise with analyzing or extrapolating R&A or similar data. Moreover, they acknowledge they did not examine any data and cannot quantify the alleged effects of these speculative factors. (Ex. 3 at 246:4-249:20; Ex. 4 at 299:2- 304:16; Ex. 2 at 231:19- 235:21.)

E. Wood Preservative Treatments.

The report spends approximately 13 pages criticizing Pella's testing, application, and drying of its wood preservative treatments. (Ex. 1 at 69-82.) Wood preservative treatments are liquid solutions containing water repellants, pesticides and other materials, and are applied to wood to help prevent deterioration from water and insects. The report's authors all agreed that they do not have degrees, training or significant experience regarding wood treatments or wood science. (Ex. 3 at 31:17-33:25, 36:2-37:10; Ex. 4 at 65:1-68:16; Ex. 2 at 59:2-60:19.)⁶ Their report does not state that SGH performed any testing to evaluate either the physical characteristics or the effectiveness of the wood preservative embedded in the windows. Based solely on language taken out of context from cherry-picked documents produced by Pella, SGH purports to identify a litany of alleged "problems" with Pella's wood treatments, from testing frequency and rigor (Ex.1 at 73-79) to the propriety of Pella's post-treatment wood fabrication processes (*id.* at 79-80) to storage temperature (*id.* at 80) to drying time following application (*id.* at 80-81) to method of application (*id.* at 82) to the species of wood Pella was using the treatment on (*id.* at 82)). The report does not identify the time periods or types of windows for which Pella used any of these allegedly deficient processes.

The defects the report alleges relate to SGH's understanding—or lack of understanding—of the performance of the wood preservative. SGH opines that "[t]he wood preservative

⁶ They hold degrees in engineering, civil engineering, engineering science and mechanics, and architectural technology. (See Louis CV, attached as Ex. 32; Ex. 3 at 17:25-18:10; Ex. 4 at 49:14-50:15.) By contrast, Pella's wood-treatment expert, Dr. Peter Laks, holds degrees in wood science, physical organic chemistry, and bio/organic chemistry. (See Ex. 24, Laks Rpt. at 48).

treatment chemicals used are insufficient for their intended exposure” (*id.* at 67) because it observed “wood discoloration” in 47% of 477 Pella windows that it observed in eighteen plaintiff houses. (*Id.*) SGH recognizes that the supposedly discolored wood “is designed to be exposed to moisture” (*id.* at 68) but claims without explanation that any discoloration “indicate[s] this wood preservative is not effective.” (*Id.*) SGH does not explain whether or how it assessed the severity of wood “discoloration” it purportedly saw, nor provide any scientific basis for its claim that wood discoloration—a stain on the wood—always indicates a defect.

II. SGH’s Destructive Examination of Windows With No Pella Representative Present.

A. Notice to Plaintiffs to Avoid Spoliation of Evidence Through Destructive Examination.

From the start of this litigation, and prior to the transfer of matters to the MDL, Pella expressed concern to Plaintiffs’ counsel about destructive examination of the Pella windows without notice to Pella. Pella made clear to Plaintiffs it intended to “exercise its rights to inspect the Pella products in their installed condition ... to prevent any potential for the spoliation of evidence.” (*See* collection of letters to Plaintiffs’ Counsel dated Mar. 29, 2013 to Jan. 23, 2014, attached as Ex. 14.) Pella made clear that if Plaintiffs had “already removed any Pella products that are the subject of the claim, Pella requests the ability to inspect those products” prior to destruction, and that any initial inspection should “not involve any destructive testing (e.g. no removal of window cladding or removal of house siding materials to reveal details of window installation).” (*Id.* at Nov. 7 and Jan. 23, 2014.)

Pella first learned that Plaintiffs had conducted *ex parte* testing in January 2014, when Plaintiffs filed an affidavit from Mr. Louis in support of their motion to transfer then-pending matters to the MDL. (JPML No. 2514, ECF 34-2, attached as Ex. 12.) Pella immediately contacted Plaintiffs’ counsel to object that Pella was not given notice of this testing and did not

have the opportunity to observe it taking place. (*See* Jan. 10, 2014 letter, attached as Ex. 15.) To avoid further spoliation, Pella requested the Plaintiffs identify the windows that were tested, the testing protocol that SGH followed, and the results. (*Id.*) Pella reiterated its requests on January 23 (attached as Ex. 16), February 18 (attached as Ex. 17), and March 10 (attached as Ex. 18), noting that “Pella reserves its right to object to any use or introduction of evidence regarding the testing of windows in their ‘as installed’ [condition] if Pella does not have access to the requested information before the condition of the windows is altered by the replacement of sashes.” Plaintiffs refused to provide the requested information before certain windows were removed, destroying the “as installed” conditions and spoliating evidence. (*Id.*)

After the transfer of the matters to the MDL, Pella continued to request access to inspect Plaintiffs’ windows. (May 19, 2014 communication to Class Counsel, attached as Ex. 19.) Plaintiffs declined Pella’s request until after the parties had negotiated and the Court had entered Case Management Order No. 7 (CMO7, ECF No. 28). Throughout the negotiation and submission of CMO7, Pella consistently (1) requested the ability to have representatives present to observe testing of windows from Plaintiffs and putative class representatives; and (2) informed Plaintiffs of its position that Pella had the right to observe windows in their “as installed” condition before they were altered by destructive examination or destructive testing by Plaintiffs. (June 3-13, 2014 email exchange between counsel, attached as Ex. 20.)

This issue was presented to the Court during a hearing on July 10, 2014. During that hearing, Plaintiffs’ counsel represented to the Court that Plaintiffs had not and would not engage in destructive examination of the windows. (July 10, 2014 Hr’g Tr. at 10:15-19, attached as Ex. 21.) (“Mr. Mandler is talking about disrupting the install—the as-installed window. And he has no evidence that—we are just talking spray wrap testing on a window. That’s not disrupting the

as-installed window.”); 10:25-11:2 (“We are not doing any disruption or damaging of the windows. If we do damage or disrupt the window, we’ll have to answer for that, I’m sure, in some sort of motion.”); 11:18-19 (“There is no evidence that we are doing anything to disrupt the as-installed windows.”). Plaintiffs’ counsel acknowledged:

Now certainly if we do anything that causes spoliation on any testing that an expert does, we would have to answer for that at the appropriate time and at the appropriate motion.

(*Id.* at 5:22-25). Based on Counsel’s representation, the Court declined to include a requirement in CMO7 for Plaintiffs to give Pella advance notice of window tests, on the condition that any Plaintiff testing or destructive examination take place after Pella had the opportunity to “see the window as is.” (*Id.* at 10:4-6); CMO7 ¶ 6 (requiring a party wishing to do destructive testing to “identify the specific location(s) where such testing is to be conducted and describe the nature of the testing to be done.... [N]o destructive testing shall be commenced or proceed without prior approval of the presenting counsel.”).

B. SGH’s Spoliation of Evidence Through Destructive Examination.

SGH’s report and depositions make clear that SGH conducted destructive examination on a number of Plaintiffs’ windows and installations without notice to Pella. Mr. Clark agreed that SGH performed “destructive openings” on several occasions. (Ex. 4 at 220.) Mr. Faulkner explained that SGH tore away drywall and other material surrounding the windows, and had contractors rebuild them with new materials after the testing. (Ex. 3 at 132-33.) Mr. Louis confirmed that removing trim and cutting away parts of the wall is “what we normally do” in SGH’s testing, and they did it here. (Ex. 2 at 182-83.)⁷

⁷ The SGH report did not document the destructive examinations at Plaintiffs’ homes and the SGH witnesses were not able to identify the homes where it took place. *See* Ex. 3 at 131:25-133:17; Ex. 4 at 219:11-220:16. At a minimum, there is photographic evidence of destructive

In addition, the SGH report itself states that SGH “peeled back the aluminum cladding” from at least 22 windows it tested.⁸ (Ex. 1 at 54; *See* Ex. 4 at 222.24- 233:15.) The report does not state whether or how SGH replaced the cladding after they peeled it back from the windows.

Equally egregiously, SGH admits that it conducted spray rack testing on a window in the Romig home that was later removed from the house and destructively examined, cut up and pulled apart into little pieces, all without notice to Pella and without any Pella representative present.⁹ Mr. Louis admitted that the frame of the destroyed window, which was removed before Pella could observe it, showed damage to the window head that was a result of installation issues independent of any alleged window defect. (Ex. 2 at 305:23-308:23; 310:23- 318.)

ARGUMENT

I. Legal Standard: Unreliable Expert Testimony Must Be Excluded.

Pursuant to Federal Rule of Evidence 702:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

examination at the Gatziolis home (Ex. 3 at 148:8-25) and the Conlay home (Ex. 4 at 216:17-220:16) as well as at non-Plaintiff Venezia Villa (Ex. 3 at 192:19-193:9).

⁸ The SGH report does not identify the homes where this took place either, but Mr. Clark brought a notebook to his deposition that he claimed contained identifying photographs. Mr. Clark identified the homes in question as Schwartz (Tomahawk Court, MN), Conlay (Conlay Drive, LA), Pohutsky (Bushy Trail Run, MD), Dineen (Lost Creek Lane, FL), Siemens (Sandy Beach Road, IA), and Gatziolis (Majestic Oaks Drive, IL). (*See* Ex. 4 at 231:16-232:14.) He admitted that three of the 22 windows were actually associated with a former named plaintiff in the ProLine litigation in the Northern District of Illinois. (*Id.* at 257:23-258:17.)

⁹ *See* Ex. 4 at 198:19-204:6; 206:14-208:7 and photos of the Romig window destructive examination, attached as Ex. 13.

Rule 702 “assign[s] to the trial judge the task of ensuring that an expert’s testimony both rests on a reliable foundation and is relevant to the task at hand.” *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 597 (1993). The Supreme Court strongly suggested that the *Daubert* analysis applies at the class-certification stage, *see Wal-Mart Stores Inc., v. Dukes*, 131 S. Ct. 2541, 2553-54 (2011) (“The District Court concluded that *Daubert* did not apply ... at the certification stage We doubt that is so ...”), and numerous courts in this Circuit and elsewhere agree. *E.g.*, *Krakauer v. Dish Network, L.L.C.*, 2015 U.S. Dist. LEXIS 118858, at *12 (M.D.N.C. Sept. 8, 2015) (“‘[W]hen an expert’s report ... is critical to class certification,’ a court ‘must perform a full *Daubert* analysis’ and rule on any challenge to an expert’s report or to the reliability of information provided by an expert before ruling on a class certification motion.”).¹⁰ Under *Daubert*,

a court should consider (1) whether the particular scientific theory can be (and has been) tested; (2) whether the theory has been subjected to peer review and publication; (3) the known or potential rate of error; (4) the existence and maintenance of standards controlling the technique’s operation; and (5) whether the technique has achieved general acceptance in the relevant scientific or expert community.

United States v. Forrest, 429 F.3d 73, 80-81 (4th Cir. 2005) (quotation marks and citations omitted). These factors are not “a definitive or exhaustive list,” but “will bear on the inquiry.”

United States v. Crisp, 324 F.3d 261, 266 (4th Cir. 2003) (quotation marks and citation omitted).

“The proponent” of expert testimony “must establish its admissibility by a preponderance of

¹⁰ *Accord Soutter v. Equifax Info. Servs. LLC*, 299 F.R.D. 126, 131 (E.D. Va. 2014) (“[O]nly reliable evidence must be considered in deciding class certification because reliability of evidence is a fundamental dictate of *Daubert*”); *Am. Honda Motor Co. v. Allen*, 600 F.3d 813 (7th Cir. 2010); *Messner v. NorthShore Univ. Health Sys.*, 669 F.3d 802 (7th Cir. 2012); *Ellis v. Costco Wholesale Corp.*, 657 F.3d 970 (9th Cir. 2011); *In re Blood Reagents Antitrust Litig.*, 783 F.3d 183, 187 (3rd Cir. 2015) (“[A] plaintiff cannot rely on challenged expert testimony... to demonstrate conformity with Rule 23 unless the plaintiff also demonstrates, and the trial court finds, that the expert testimony satisfies the standard set out in *Daubert*.”).

proof,” *Cooper v. Smith & Nephew, Inc.*, 259 F.3d 194, 199 (4th Cir. 2001), while “the district court must act as a gatekeeper.” *E.E.O.C. v. Freeman*, 778 F.3d 463, 472 (4th Cir. 2015).

II. The Methodology, Principles, and Data SGH Used for Its Opinions are Unreliable.

SGH’s methodology and principles are faulty, unsupported, and unreliable. The SGH report’s reasoning runs like this:

- A. Assume that Plaintiffs’ windows leak. Flood them with water using non-industry standard tests (equivalent to more than 36 inches of rain an hour) to force leaks, without considering any alternative leakage pathways and without bothering to approximate the actual weather conditions experienced by the windows.
- B. Characterize any stained wood as unacceptable “deterioration”—even if the discoloration has no impact whatsoever on the structural integrity of the window, or was caused by interior condensation—and declare without any testing, scientific basis, or industry experience that this proves the wood preservative in Plaintiffs’ windows is defective.
- C. Extrapolate these observations from selected Plaintiffs’ units to conclude that the same defect exists in every Architect Series and Designer Series casement window manufactured between 1997 and 2007, notwithstanding the multiple and varied design elements, materials and manufacturing processes that changed over time and the confounding installation.

None of these conclusions are admissible.

A. Because SGH’s Water Testing Protocols Assumed the Windows Were Defective, it is Neither Helpful Nor Reliable in Assessing that Question.

SGH’s water testing methodology is not and cannot satisfy *Daubert* to form the basis of SGH’s opinion that the windows leaked. SGH was hired only to examine whether the windows leaked, not to examine any potential alternative causes. But rather than testing a null hypothesis on window defects, SGH began by *assuming* window leaks occurred, and created non-standard and severe testing protocols for the sole purpose of supporting the assumption. SGH failed to consider any possible alternative cause. It compounded the error by disregarding industry standard tests and creating its own severe testing protocol to force the windows to leak. SGH’s testing and conclusions regarding window leakage thus are not the result of the reliable

application of generally-accepted or published methodology and thus do not satisfy *Daubert*.

1. SGH Employed Faulty, Incomplete, and Unreliable Investigative/Testing Methods.

The industry-standard testing protocols SGH cites recognize that “[w]indows are often wrongfully blamed for leaks because the interior symptom of the leak appears at a window, even though the cause is elsewhere.” (ASTM E2128 § X3.8.8, attached as Ex. 10; *see also* 2006 Criterium Engineers Construction Quality Survey (noting improper window installation in 28% of new homes, and water intrusion from defective siding in 19%, attached as Ex. 34).) Indeed, Pella’s experts explain how defects in the installation and construction of the surrounding walls, as well as interior condensation issues, caused water problems at Plaintiffs’ houses.¹¹ Moreover, ***the performance of the window itself*** is impacted by installation and construction. As noted by the American Society for Testing and Materials: “Improper installation of [window] units contributes to excessive air, water and sound leakage, and condensation. It may promote the deterioration of wall constructions, insulation, fenestration products [windows] and their respective finishes.” ASTM E2128-01a (Ex. 10). The American Architectural Manufacturers Association agrees. *See* AAMA 2400-10 at 4.2 (Ex. 33). Further, “the effectiveness and durability of installed [window] units depend not only on the choice and quality of materials, design, adequacy of assembly, and support system, but also on their proper installation.” *See* AAMA 2400-10 at 4.1 (Ex. 33). Therefore, the windows cannot be analyzed in isolation; it is also essential to consider window-by-window installation and construction issues for each putative class member so as to not improperly blame the window design, or incorrectly conclude the window is defective. In other cases involving allegedly defective windows, SGH has

¹¹ Smith Rpt. ¶¶ 3.1, 5.2, attached as Ex. 30; Cruz Rpt. at 2-3, attached as Ex. 22; Manning Rpt. *passim*, attached as Ex. 23; Gerdes Rpt. *passim* & Apps., attached as Ex. 31; WJE Rpt. at 10-23, 33-35, 38-43, 55-62, 63, attached as Ex. 29; Lstiburek Rpt. *passim*, attached as Ex. 25.

examined these elements to determine whether water leakage is caused by them instead of a window defect. (Ex. 2. at 176:16-177:3.) SGH did not do so in this case.

Here, Mr. Louis agreed that SGH could have done “a much more involved or in-depth investigation” to consider other possible sources for moisture entry. (*Id.* at 185:1-9.) But he explained that SGH was hired by Plaintiffs’ counsel solely to examine the windows themselves. (*Id.* at 176:16-19) (“[Y]ou have not been retained to evaluate construction issues, installation issues or issue[s] outside of the window itself? A: Correct.”) SGH candidly admitted that SGH’s testing here “was a product evaluation” focusing solely on the window (*id.* at 300:11-12) “that we didn’t look at outside contributions to leakage” (*id.*), that “we did not identify the difference between” water penetration through windows and construction problems (Ex. 4 at 268:10-15), and did not try to “identif[y] all of the installation deficiencies” that may have caused leaks (Ex. 2 at 301:4-5; *see also id.* at 186-92), but instead ignored possible alternative entry points for water (*id.* at 185:14-187:18). Mr. Clark agreed:

We weren’t establishing whether or not the windows were installed with, you know, adjacent construction issues. We were trying to document leakage paths solely related to the window itself separate from installation and surrounding construction.

(Ex. 4 at 213:17-23; *accord* Ex. 3 at 135:4-14.)

As a result, even when SGH noticed possible window-installation or wall-construction problems, it did not investigate them, despite the fact that the installation problems could impact the performance of the window itself – a point SGH admits. (Ex. 4 at 213:10-214:6, 268:10-15; Ex. 2 at 176:16-19, 323:13-324:16) (“Even the best of thermal-performing windows can fail because of condensation with higher amounts of humidity in the homes. I don’t dispute any of that, and I don’t doubt that there were a couple of [Plaintiffs’] homes that had that problem.” and “Q. But you’ll agree that window installation can have an impact on the performance of the

window? A. Yes . . .). At the Romig home, for instance, Mr. Louis agrees that “the installation of windows, not just the windows but everything at Romig is terrible, to say the least. There is distribution to damage from everything the contractor touched.” (Ex. 2 at 306:7-11.) Although he claimed the windows also were defective, the report does not suggest that SGH considered whether any performance failures resulted from these issues instead of the windows.

Because SGH was only testing the windows and could not consider whether any water Plaintiffs observed had any source other than a window defect, or whether faulty installation was impacting the performance of the windows themselves, there was only one way it may have been able to determine whether the windows had really leaked: collect data about where and when any observed leaks occurred, simulate the *actual weather* at Plaintiffs’ homes at those times, and observe whether this test replicated the observed leaks. That is precisely the approach called for by AAMA 511 for use with in-service windows. *See* Ex. 11; Ex. 9 at § 4.2.1.1 (“The objective of forensic water testing is to identify the leak path(s) through simulation of the weather events that produced the reported water penetration.”). But this approach—seeing if simulating real-world weather conditions would replicate real-world leaking—was exactly what SGH *did not* do. Mr. Clark and Mr. Faulkner agreed they were “not trying to replicate weather events.” (Ex. 4 at 108:15-16; *accord id.* at 139:14-18; Ex. 3 at 92:4-8, 94:17-23.) Although SGH relies on several AAMA testing standards, its report does not mention AAMA 511 (the proper standard). Nor does it discuss historical weather conditions at any of the Plaintiffs’ houses, let alone correlate them with the testing conditions. And SGH admits it never attempted to correlate its findings of leakage under its severe testing with where and how window leaks were reported by the homeowners. (Ex. 4 at 167:24 – 168:10 (“There’s not a document that correlates window leakage with at—any reported by homeowner and then subsequently if we did or did not test it”).)

Instead, SGH *assumed* that water had leaked through some unspecified part of the windows, and single-mindedly set about forcing leaks through tests using ever-increasing severity without following any standard written protocol. Mr. Louis explained that SGH's foundational assumption in formulating its testing was "that leakage did occur at some point that caused damage to the window," and that "if ... there was not a problem with the window, then it would not have leaked." (Ex. 2 at 150:4-6; 151:7-9.) Since SGH *was not retained* to consider whether water leaked anywhere *other* than through the windows (or that any window leak was not due to a defect), this meant it was assuming the existence of the only condition—water entry through window defects—that it could have tested.

These efforts to "replicate" the erroneously-assumed window leakage led SGH to drastically, and arbitrarily, increase the severity of its testing. Mr. Louis explained that SGH's approach was that "[i]f our testing does not reproduce the leakage, then we need to do" more severe testing. And if the windows passed a more severe test, according to Mr. Louis, "[w]e would probably come up with a different plan for testing and maybe testing for a longer period of time until we were able to identify the paths that led to the leakage and water damage that this window experienced." (*Id.* at 150:7-8; 150:22:-151:22-3; *see also id.* at 148-49.) Accordingly, SGH's first level of testing severity was a modified version of ASTM E1105, the 5-gallon-per-foot-per-hour flow rate of which simulates a record rainfall of eight inches per hour. (Ex. 1 at 52-53.) SGH increased the pressure under which this test was conducted past the level prescribed even for brand-new windows, despite the fact that the tested windows had been in service for many years. (*Id.*) When a substantial portion of the windows refused to leak, SGH switched to an even more severe test. Under a protocol concocted by SGH and not published anywhere, SGH sprayed around *twenty* gallons per square foot per hour (more than 36 inches per hour) at isolated

areas of the window. (*Id.* at 53.) As this forced water through many windows,¹² SGH apparently was satisfied that it had “replicated” the assumed leaking (*id.* at 54 & App. C). However, ASTM cautions that “[c]reating new leaks during a test ... is not a valid assessment of the existing leakage problem,” and “[t]esting at an environmental exposure level that the building has never experienced and has little likelihood of experiencing may lead to incorrect conclusions,” so “it is crucial to use realistic pressures for evaluation, based on actual weather conditions and wind conditions for a particular site.” (Ex. 10 at §§ 10.1.1.3, 10.2.2, X3.7.3.1.)

2. SGH’s Spray Testing Fails under Daubert.

SGH’s testing is based on unreliable methodology, and is therefore inadmissible under *Daubert*, for two reasons. First, because SGH’s testing simply assumed that the windows leak and tried to “replicate” those leaks (through artificially severe tests), it would be useless and even misleading to admit it as evidence regarding whether the windows really leaked. Courts have not hesitated to exclude a proffered expert “methodology [that] does nothing more than assume the conclusion” it purports to reach. *Trugreen Cos. v. Scotts Lawn Serv.*, 508 F. Supp. 2d 937, 959 (D. Utah 2007). An opinion of this kind “obviously rests on a foundation of sand (or more accurately, no foundation at all),” and is not admissible. *United States v. Edwards*, 294 F. Supp. 2d 954, 958 (N.D. Ill. 2003), *rev’d on other grounds*, 397 F.3d 570 (7th Cir. 2005).

This is with good reason. One of the primary inquiries under Rule 702 is “[w]hether the expert has adequately accounted for obvious alternative explanations.” Fed. R. Evid. 702, 2000 Adv. Comm. N. A purported expert “must demonstrate not only that his hypothesis is plausible, but that *it*, and not some alternative hypothesis, best explains the event in question.” *Fireman’s Fund Ins. Co. v. Tecumseh Prods. Co.*, 767 F. Supp. 2d 549, 555 (D. Md. 2011). Thus, an expert

¹² Nearly 10% of tested windows did not leak even under these artificial conditions. Ex. 1 at 54.

who “utterly fails to consider alternative causes” cannot plausibly claim that the only alternative he considered must be the problem, without some further proof. *Cooper*, 259 F.3d at 202.¹³ But that is exactly what SGH did; it set out to “diagnose” the source of its assumed leakage even though its engagement limited it to examining for window defects. So rather than testing to *find out* whether water had gone through the windows, SGH set out to *force* water through under arbitrarily severe conditions that the windows never faced in real life. The fact that SGH’s “replicated” leakage paths went through the windows thus was a foregone conclusion, and not in any way reliable or helpful to the trier of fact.

Second, by artificially focusing only on the windows and excluding any other possible cause of the alleged water entry and whether installation was impacting window performance, SGH failed to “employ[] in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.” *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999); *see* Fed. R. Evid. 702, 2000 Adv. Comm. N. (noting the importance of considering “[w]hether the expert is being as careful as he would be in his regular professional work outside his paid litigation consulting” (quotation marks and citation omitted)). Testimony must be excluded if it is based on an “evaluation [that] was not consistent with the diagnostic methodology [the purported expert] employs in his own ... practice,” *Cooper*, 259 F.3d at 203 (discussing medical diagnosis), if it fails to “meet the generally accepted standards of ... investigation set out in” industry standards, or if it flunks “the requirements of testing and ruling

¹³ *Accord Shreve v. Sears, Roebuck & Co.*, 166 F. Supp. 2d 378, 399 (D. Md. 2001) (product-defect case; excluding expert testimony that “posited a seemingly plausible mechanical defect [but] refus[ed] to consider any other possible explanations”); *Waytec Elecs. Corp. v. Rohm and Haas Elec. Materials, LLC*, 459 F.Supp. 2d 480, 488-89 (excluding proffered expert testimony that was “based on correlation and guesswork” and “utterly fail[ed] to consider or explain alternative causes”).

out of other hypotheses set out in *Daubert*.” *Fireman’s Fund*, 767 F. Supp. 2d at 556 (discussing industry standards for investigating the source of a fire); *see also Carter v. United States*, 2014 WL 3895751, at *3 (E.D. Va. Aug. 8, 2014) (doctor’s failure to “consider a patient’s prior history” required exclusion).

That was the case here. SGH admits that water problems can be caused by faulty installation, construction, or interior moisture management, and that it examines for these factors in other circumstances. (Ex. 2 at 176:11-177:3; *see also* Ex. 4 at 213:24-214:3) Mr. Louis acknowledged that its failure to do so here was imposed simply by the terms of SGH’s engagement by Plaintiffs’ counsel. (*Id.* at 301:1-6) (“identif[y]ing all of the installation deficiencies ... was not our direct charge here”). Exclusion is warranted.

B. SGH Lacks Any Qualification to Opine on Wood Treatment, Nor are Its Conclusions Helpful in Any Event.

SGH’s theories about what is actually wrong with Plaintiffs’ windows rely in large part on the wood preservative treatment that Pella applied to the windows.¹⁴ But the report’s authors admit they have no qualifications to opine on wood preservatives or wood science, so these opinions should be excluded in their entirety.

Moreover, SGH did nothing to actually evaluate the wood treatment in Plaintiffs’ windows, to determine if superior alternative wood treatments were available, or even to determine what kinds of wood treatment application and drying processes were used on Plaintiffs’ windows. The report baldly concludes that, because the interior wood on some of the

¹⁴ The report gestures at other alleged defects—for instance, suggesting briefly that *all* aluminum-clad windows are inherently defective and should be exchanged for “a fully vinyl clad window.” (Ex. 1 at 85.) These isolated allegations find no meaningful support in SGH’s analysis, and so should not be admitted. *See Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997) (“Nothing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert.”).

windows allegedly bears water stains or “discoloration,” something about the wood treatment simply must be defective. But SGH does not claim that staining impairs the functionality or structural integrity of the window, and Pella’s experts have demonstrated that it does not. And SGH admits that stained wood can still pass tests for preservative effectiveness. Thus, even if the SGH authors were qualified on this topic, the alleged staining is not a defect, and SGH’s opinion therefore would not be helpful to the trier of fact.

1. Plaintiffs’ Purported Experts Admit they Lack Qualifications on Wood Treatments.

None of the report’s authors hold themselves out as experts in wood preservatives. *See* Ex. 3 at 33:5-9; Ex. 4 at 65:6-7 (attesting to “kind of a general knowledge of wood preservative”). Mr. Louis admits he is *not* an expert. (Ex. 2 at 59:20-60:8.) All three admit they have no degrees or other training regarding wood treatments or wood preservatives. (Ex. 2 at 56:11-57:5; Ex. 4 at 66:18-67:4; Ex. 3 at 31:17-32:7 (Faulkner has no “specific training for wood treatment”).) None of them has published a single article on the topic. (Ex. 2 at 59:17-19; Ex. 4 at 68:14-16; Ex. 3 at 33:14-17.) Although much of their report consists of criticisms of Pella’s wood treatment testing, none of the authors has conducted any of these tests even once. (Ex. 2 at 59:2-10; Ex. 4 at 67:5-15; Ex. 3 at 36:2-9.) Mr. Faulkner, who had primary responsibility for evaluating Pella’s wood-treatment documentation (Ex. 2 at 75:12-18), could not recall if he had ever read even *part* of the relevant wood-treatment standard before this case. (Ex. 3 at 37:3-8.)

Courts routinely exclude the proffered expert testimony of witnesses who admit a lack of expertise in the relevant areas.¹⁵ The fact that Louis, Clark, and Faulkner are engineers, and may

¹⁵ *Dura Auto. Sys. of Ind., Inc. v. CTS Corp.*, 285 F.3d 609, 611-12, 615 (7th Cir. 2002); *Tokio Marine & Fire Ins. Co. v. Grove Mfg. Co.*, 958 F.2d 1169, 1174 (1st Cir. 1992); *In re Rezulin Prods. Liab. Litig.*, 309 F. Supp. 2d 531, 559 (S.D.N.Y. 2004); *In re Baycol Prods. Litig.*, 532 F.Supp. 2d 1029, 1047 (D. Minn. 2007). Rule 702 requires a purported expert to be “qualified ...

have knowledge regarding window parts as physical barriers to water entry, does not allow them to opine on the quite different topic of wood preservative treatments. A proposed expert cannot substitute experience in a related field, for expertise regarding the field in issue. *Cooper v. Lab. Corp. of Am. Holdings*, 150 F.3d 376, 380 (4th Cir. 1998) (experience in breath alcohol testing was not qualification to testify on urine alcohol testing). Fourth Circuit law on this topic is well canvassed by *Reliastar Life Ins. Co. v. Laschkewitsch*, 2014 WL 1430729, at *1 (E.D.N.C. Apr. 14, 2014), in which the court collected cases holding that:

- “[E]xperience in ski safety policies and testimony in other ski accident cases did not qualify [an] expert to opine about snowmaking machine safety” (citing *Hardin v. Ski Venture, Inc.*, 50 F.3d 1291, 1296 (4th Cir.1995));
- An “expert with [an] MBA and experience analyzing companies’ business health [was] not qualified to give antitrust testimony where she had no specific education or experience in antitrust matters” (citing *Thomas J. Kline, Inc. v. Lorillard, Inc.*, 878 F.2d 791, 799–800 (4th Cir.1989));
- An “architect with no specific experience in parking lot design [was] not qualified to offer expert testimony on parking lot design” (citing *Estate of Richard Myers v. Wal-mart Stores, Inc.*, 2011 WL 1366459, at *3 (E.D.N.C. April 11, 2011)).

The *Reliastar* court itself held that a proffered expert’s “insurance industry experience without specific experience in underwriting does not qualify him to offer expert testimony on underwriting.” 2014 WL 1430729 at *1. Other courts in this Circuit have held that experience with “market analyses to forecast businesses’ financial profitability” did not qualify a witness as an expert on “market analyses for antitrust purposes,” *Virginia Vermiculite Ltd. v. W.R. Grace & Co.-Conn.*, 98 F. Supp. 2d 729, 734 (W.D. Va. 2000); see *Berlyn, Inc. v. Gazette Newspapers, Inc.*, 214 F. Supp. 2d 530, 536 (D. Md. 2002), and that “extensive experience evaluating the nature and extent of damages and estimating the costs of repairs after an incident” did not qualify

by knowledge, skill, experience, training, or education.” As a result, “[w]hen an expert is no longer applying his ... experience ..., the testimony should be excluded.” *United States v. Dukagjini*, 326 F.3d 45, 54 (2d Cir. 2003) (citation omitted).

a witness as an expert on “estimating the pre-incident value of a structure,” *Norfolk & Portsmouth Belt Line R. Co. v. M/V MARLIN*, 2009 WL 3363983, at *6 (E.D. Va. Oct. 9, 2009).

The wisdom of this rule is vividly illustrated here, as Pella’s wood-treatment expert identified multiple basic mistakes SGH made regarding wood preservatives. For instance, SGH misinterpreted a manufacturer publication recommending a certain wood preservative for use on “non-pine” wood as prohibiting its use with pine. (Ex. 1 at 82.) But in direct correspondence with the manufacturer, Pella’s expert confirmed that it made the “non-pine” recommendation because it was obvious to anyone in the industry that the coating’s *main use* was on pine, “but there needed to be some emphasis that non-pine species could be used as well.” (Laks Rpt. at 13, attached as Ex. 24.) SGH also misinterpreted the WDMA I.S.4-94 standard, which requires re-treatment of wood surfaces that are machined after initial treatment, as applying even to interior wood surfaces. (Ex. 1 at 79-80.) But the standard has never required this, as Pella’s experts confirmed by direct correspondence with the chairman of the WDMA’s Treatments and Coatings Committee. (Ex. 24 at 6, 34; *see generally id.* at 27-40 (critiquing many aspects of SGH’s wood-treatment opinions).) At his deposition, Mr. Clark conceded that this portion of SGH’s report is an error. (Ex. 4 at 313:6-315:1.)

The SGH personnel lack experience, education, or other qualifications in wood treatment application or testing. Their proposed testimony on wood preservatives, and alleged defects involving their use or compatibility with other products, should be excluded as unqualified.

2. SGH’s Criticisms of Pella’s Supposed Wood Treat Application Processes are Invalid.

Even if SGH was qualified to render its wood-treatment opinions, those opinions cannot pass *Daubert*’s separate reliability test, because they have no demonstrated connection to the windows in this case. Based on a review of documents produced by Pella, SGH criticizes various

aspects of how Pella applied, dried, and tested wood preservatives at various times in the past few decades. (Ex. 1 at 72-82.) But SGH has not even tried to *identify*, let alone critique, the wood-treatment techniques that were used on the windows that Plaintiffs actually own.

SGH acknowledges that Pella frequently changed its designs and manufacturing process throughout the 1997-2007 period in question. *E.g.*, Ex. 4 at 293:5-294:1 (“[T]here are constant changes being made by Pella to try to improve their window.”). Pella also manufactured the windows at different plants. Each of the wood treat application procedures that SGH critiques, therefore, applied only to a subset of windows. SGH acknowledges several of these limitations:

- SGH criticized the temperature of Pella’s outdoor wood treatment storage facilities, but Mr. Louis acknowledged that this criticism only applies to wood treatment stored during certain seasons of the year. (Ex. 2 at 279:17-19.)
- SGH claims (mistakenly, *see supra* at p. 24) that Pella should not have used one of its various wood treatments, Woodlife 111, on pine wood. (Ex. 1 at 82.) This criticism does not apply to windows made with other wood treatments or non-pine wood species.
- Various others of SGH’s wood-treatment critiques apply only to specific manufacturing processes (*id.* at 79), specific drying times (*id.* at 79-80), and specific application methods (*id.* at 82). But SGH admits that many windows were made with other processes that it does not criticize. (*E.g.*, *id.* at 82 (claiming that only nine of Pella’s 24 wood-preservative application systems were non-compliant with the manufacturer’s recommendations); Ex. 2 at 295:21-296:2 (disclaiming knowledge whether drying-time issues applied to windows other than the ones SGH tested).

To plausibly suggest that Plaintiffs’ windows are defective, SGH would have had to establish that they were manufactured using one or more of the criticized methods, and correlate those methods with wood deterioration in those windows. But the report does not suggest that SGH even tried to do this, and the SGH witnesses admit they did not. (*E.g.*, Ex. 4 at 281:9-15; 286:15-21; Ex. 2 at 279:12-280:2.)

3. SGH’s Observations of Superficial “Discoloration” or “Staining” are Irrelevant.

Since SGH cannot point to anything wrong with the actual characteristics of the wood preservative in Plaintiffs’ windows, it is left with its alleged visual observations of “staining” or

“discoloration” on some (allegedly 47%) of the windows. (Ex. 1 at 52.) SGH’s foundational, but unexplained, assumption is that wood preservative that allows this staining must be “defective.” (*Id.* at 68) (opining that the “wood preservative is not effective at least forty-seven percent of the time”). But SGH admits that this assumption is wrong, that a great deal if not all of the discoloration it witnessed is entirely superficial, and that its purported assessment of the seriousness of the staining is not based on any methodology at all, let alone a reliable one.

SGH’s report refers to both “discoloration” and “deterioration.” (*E.g.*, Ex. 1 at 67-70.) Mr. Clark explained his understanding of the difference between the two, acknowledging that “discoloration” is “surface-related only” staining, whereas “deterioration” causes “wood fibers to break apart or the distortion of the wood.” (Ex. 4 at 270:8-12.) SGH also acknowledges that only wood deterioration—not discoloration alone—indicates wood preservative problems. Mr. Louis agreed that despite exhibiting “staining,” a window frame “still would have probably passed your testing of wood preservative effectiveness.” (Ex. 2 at 307:21-308:2.) This is consistent with an industry standard recited in SGH’s report, American Wood Preserver’s Association E16-98, *Standard Field Test for Evaluation of Wood Preservatives to be used out of Ground Contact: Horizontal Lap-Joint Methods* (attached as Ex. 11.) AWPA E16-98 recognizes that discoloration that is “dark and in streaks” can result in only “superficial” weakening of the wood, which would remain “99%” sound, and that even “distinct discolorations” in “patches and streaks” leave the wood “90%” sound. (Ex. 1 at 15 (quoting AWPA E16-98 at 4.)) The standard clarifies that the wood has not “failed” until it reaches 0% soundness. (*Id.*) Pella’s expert confirms that windows whose wood is only stained will remain sound and serviceable for some time. (*E.g.*, Lstiburek Rpt. at 3, attached as Ex. 25.) SGH does not dispute this point.

In short, SGH agrees that properly distinguishing between superficial discoloration and problematic deterioration is crucial in assessing wood-preservative effectiveness.¹⁶ But its report completely elides this distinction and repeatedly refers to “discoloration” and “deterioration” interchangeably, even when the context reveals it is discussing discoloration only:

- In discussing parts of the window that SGH recognizes are “designed to be exposed to moisture” (Ex. 1 at 67-68), the report states that “[f]orty-seven percent ... of [examined] windows exhibit[] wood discoloration.” (*Id.* at 67.) But three sentences later, without any justification or explanation, the report refers to those same observations as “wood deterioration” that “manifests itself ... before the end of [the] warranty period.” (*Id.* at 68.) SGH concludes, based solely on its finding of “discoloration,” that Pella’s “wood preservative is not effective at least forty-seven percent of the time.” (*Id.*)
- SGH claims that destructive testing by Pella’s experts revealed “wood discoloration” and “staining” in certain windows. (*Id.* at 68.) It then immediately claims that “[t]hese observations indicate that wood deterioration is occurring.” (*Id.* at 69.)
- SGH records that its own destructive testing revealed “staining,” but immediately recharacterizes this as “deterioration.” (*Id.* at 70.) In his deposition, however, Mr. Clark admitted that in SGH’s destructive testing “[w]e did not note wood deterioration,” in the form of wood-fiber breakdown, in even a single window. (Ex. 4 at 322.)

Far from using the kind of reliable, tested, accepted methodology that *Daubert* requires to distinguish between discoloration and deterioration, SGH appears to have used no methodology at all—beyond an outcome-driven “eyeball test” in which all discoloration automatically counts as deterioration. This kind of analysis is not admissible. *See In re TMI Litig.*, 193 F.3d 613, 703-04 (3d Cir. 1999) (affirming exclusion of purported expert whose method “to score and weigh his parameters” was “purely subjective”); *Furlan v. Schindler Elevator Corp.*, 864 F. Supp. 2d 291, 298 (excluding purported expert who used “little, if any, methodology beyond his own intuition” and no discernible “standard”). Without it, SGH’s opinion regarding wood preservatives rests on nothing whatsoever, and therefore also must be excluded.

¹⁶ SGH also fails to distinguish between staining of the window finish (which has nothing to do with the window or the wood preservative) and staining of the actual wood of the window itself.

C. Extrapolating from Plaintiffs’ Windows to a Decade’s Worth of Architect Series and Designer Series Casement Windows is Unreliable.

Even if SGH had drawn valid conclusions regarding defects in the windows it examined, there would be no basis whatsoever for expanding that conclusion to millions of windows SGH never assessed. Neither SGH’s testing results nor its purported criticisms of Pella’s wood-treatment process could be extrapolated in that way.

The current proposed class definition includes approximately 7.5 million Pella windows. (Oltman Decl. at ¶ 3, attached as Ex. 36.) SGH spray-tested 98 windows (*see* Ex. 1 at App. C)—less than 0.0014% of the total. It visually examined 477 windows (Ex. 1 at 67), or less than 0.0064% of the total. At the same time, SGH’s own analysis of Pella’s ten-year warranty data demonstrated that average yearly claims for wood deterioration were 0.87% for Architect Series and 0.48% for Designer Series. Pella’s expert confirms that the vast majority of purchasers of these windows are satisfied. (Hanssens Rpt. ¶¶ 16, 62, attached as Ex. 28.) Yet without explanation, SGH purports to leap from its assessment the small subset of windows owned by Plaintiffs here to the conclusion that all 7.5 million class windows—with multiple and varied window design elements, materials and manufacturing processes, installation and construction errors, home construction issues, maintenance missteps, and condensation issues—are defective. Moreover, SGH’s allegations of wood-preservative-related defects are not related to *any* identified set of windows. This is precisely the sort of *ipse dixit* that the Supreme Court has ruled out as expert evidence. *Joiner*, 522 U.S. at 146.

1. SGH Provides No Basis for Extrapolating its Testing Results Beyond the Sample.

SGH apparently wishes to conclude that because many of the few-dozen windows it tested “failed” its spray tests (which, again, were highly non-standard and designed to force leaks), all the other Designer Series and Architect Series clad windows manufactured from 1997-

2007 would fail as well. But “[d]ata from [a] sample can be extrapolated to describe the characteristics of the population” only under rigorous standards of statistical validity. National Research Council-Federal Judicial Center, *Reference Manual on Scientific Evidence* 226-27 (3d ed.) (2011). SGH does not even acknowledge these requirements, let alone apply them, and its attempted conclusions reveal fatal problems in its unspoken analysis.

a. SGH’s Test Results are Based on Unreliable Data and Unreliable Methodology Because of Selection Bias.

SGH only tested windows of a dozen or so plaintiffs selected by counsel, all of whom had a bad enough experience to sue Pella. This severe selection bias—that is, “systematic error due to nonrandom selection of subjects for study,” *id.* at 296—makes the sample SGH tested highly inappropriate as a stand-in for all windows in the putative class. *See id.* at 225 (“Selection bias is acute when ... attorneys choose cases for trial.”). SGH’s report does not even address this issue, and at his deposition Mr. Louis was unaware of it. (Ex. 2 at 246:17-247:3.)

“This type of systematic difference between the observations included in the study versus those that are not renders expert testimony based on these data unreliable.” *Orthoflex, Inc. v. ThermoTek, Inc.*, 986 F. Supp. 2d 776, 805 (N.D. Tex. 2013) (rejecting proffered analysis of a “sample ... used to justify a conclusion about the failure rate for *all* [of a set of] products,” where the sample “included *only* those products that had been returned for an alleged failure: a subset that had a greater-than-average probability of exhibiting a problem”). This is true even for proffered expert testimony that is more statistically sophisticated than SGH’s. *E.g., In re Countrywide Fin. Corp. Mortgage-Backed Sec. Litig.*, 984 F. Supp. 2d 1021, 1039-40 (C.D. Cal. 2013) (rejecting study that over-sampled from plaintiffs in the lawsuit); *Valentine v. Pioneer Chlor Alkali Co.*, 921 F. Supp. 666, 677 (D. Nev. 1996) (rejecting study of patients referred for medical care). **Indeed, SGH itself has previously been subject to judicial criticism for**

precisely this kind of selection bias. In *Camenson v. Milgard Manufacturing, Inc.*, SGH “tested windows in eight houses—which were part of an ongoing construction defect action—and [reported] that the tests resulted in failures.” 2008 WL 2381904, *4 (Cal. App. 2008). The court ruled there was no “foundation ... that would justify extrapolation of the test results to the universe of windows at issue—approximately 1.3 million”—in the proposed class. *Id.* The same reasoning applies here.

b. SGH’s Testing Does Not Account for Product Heterogeneity and is the Result of Undersampling.

Selection bias problems would persist even if SGH had established that all windows in the putative class were physically similar. But in fact, this is another question that SGH does not appear to have considered. Pella’s experts have explained that its “casement designs have undergone a variety of sealant and wood treatment configurations in the time ranges discussed in the SGH report,” and that “the glazing pocket components (metal, sealants, profiles, and wood treatment) and installation methods have all varied considerably on the vintages of the product in question.” (Ex. 31 at 6, 34.) As a result, “the rectangle sash[es] have had seven different sealant combinations, the hardware has seen seven different hinge/operator modifications and the frame weatherstrip and sealant features have changed four times.” (Jungling Rpt. at 6, attached as Ex. 26; *see generally id.* at 6-12 (discussing other differences in sealants, rainstrips, glazing, and wood treatments.)) Despite this, SGH tested Designer Series windows from only four of the ten years its opinion purports to cover, and tested Architect Series windows from only seven of the ten years.¹⁷ Even for years where SGH did test windows, it made no attempt to ensure an adequately sized sample or to address the severe selection bias that arises from using only

¹⁷ SGH did not test Designer Series windows from 1997, 1998, 1999, 2001, 2002, or 2007; or Architect Series windows from 1998, 2000, and 2006. (Saraf Rpt. Tbl. 6, attached as Ex. 27.)

windows owned by plaintiffs already in litigation. Nor can SGH possibly extrapolate its statistically inadequate and biased conclusions from the window designs it did examine to the hundreds of thousands, or millions, of windows with different designs. This only compounds the impropriety of generalizing from this limited sample to the huge population of class windows.

2. SGH's Allegations of Wood-Preservative Defects Cannot be Generalized.

SGH fares even worse in alleging that every Window from 1997 to 2007 suffers wood-preservative defects. For the reasons explained, *see supra* at pp. 24-25, SGH has not suggested that any of its alleged wood-treatment shortcomings applied to all windows manufactured during that decade—and it has admitted that many of them did not. *E.g.*, Ex. 4 at 293:24-294:1 (“[T]here are constant changes being made by Pella to try to improve their window.”). For the same reasons, even if SGH were qualified to opine about wood preservatives, its blanket conclusion regarding every Window manufactured from 1997 to 2007 could not be admitted.

Even if SGH had taken a representative sample of windows, its data do not support its conclusion of a universal defect. Even for the examined windows, SGH concludes only that Pella’s “wood preservative is not effective at least forty-seven percent of the time.” (Ex. 1 at 68.) SGH thus has no basis for concluding that wood treatment must be uniformly ineffective in millions of windows it did *not* look at. Exclusion is warranted because “there is simply too great an analytical gap between the data and the opinion proffered.” *Joiner*, 522 U.S. at 146.

III. SGH's Spoliation Of Evidence Provides An Alternative Basis For Exclusion.

Entirely apart from Rule 702 and *Daubert*, SGH’s evidence and opinions should be excluded as a result of its intentional destruction of evidence. Despite Pella’s repeated requests to be present for testing and any destructive examination of Plaintiffs’ windows, and despite Plaintiffs’ counsel’s representations to this Court that no destructive examination had or would occur outside of Pella’s presence, SGH destructively examined Plaintiffs’ windows without

giving Pella any notice or opportunity to observe. SGH tore one allegedly-defective window to bits without allowing Pella to examine it. (Ex. 4 at 198:19-204:6; 206:14-208:7.) It physically peeled away aluminum cladding from at least 22 other windows (Ex. 1 at 54), again leaving Pella to guess at their original condition. And SGH directed its contractors to tear out existing drywall and other installation components of the windows, and replace them with new materials. (Ex. 3 at 132:11-133:10.) This leaves Pella at a disadvantage in proving its position that faulty installation or wall construction, not the windows themselves, caused any water leakage.

Spoliation is “the destruction or material alteration of evidence or ... the failure to preserve property for another’s use as evidence in pending or reasonably foreseeable litigation.” *Silvestri v. Gen. Motors Corp.*, 271 F.3d 583, 590 (4th Cir. 2001). In diversity cases, “a federal law of spoliation applies because ... the power to sanction for spoliation derives from the inherent power of the court” *Id.* A party is responsible for spoliation committed by the party’s agents, including experts. *Vodusek v. Bayliner Marine Corp.*, 71 F.3d 148 (4th Cir. 1995). Specifically, “[w]hen an expert employed by a party or his attorney conducts an examination reasonably foreseeably destructive without notice to opposing counsel and such examination results in either negligent or intentional destruction of evidence,” the Court is “required to take appropriate action ... to ameliorate the ill-gotten advantage” and ensure a fair trial. *Lewis v. Darce Towing Co.*, 94 F.R.D. 262, 269 (W.D. La. 1982) (citation omitted).

The Fourth Circuit has twice recognized that sanctions are warranted where spoliation results in only the plaintiff’s expert having access to a crucial piece of evidence. In *Silvestri*, after the plaintiff’s experts examined an allegedly defective vehicle *ex parte*, the plaintiff had the vehicle repaired and sold, leaving the defendant’s expert with “incomplete and indefinite” information regarding its condition. 271 F.3d at 594. The Fourth Circuit affirmed that this

warranted outright dismissal of the plaintiff's claims. *Id.* at 595. *Vodusek* involved destructive testing by an expert, who "ripped apart" an allegedly defective boat after apparently "decid[ing] that the destroyed portions of the boat were not relevant to his theory of the case." 71 F.3d at 155, 156. The Fourth Circuit noted that the expert "ignored the possibility that others might have entertained different theories to which the destroyed portions might have been relevant," *id.* at 156, and affirmed a spoliation sanction in the form of an adverse-inference jury instruction.

Here, by destroying the Romig window, removing the cladding from 22 others, and destroying the surrounding installation for yet others, SGH irrevocably consumed or altered the physical evidence it was testing. Pella's chance to mount a defense based on its own expert examination of the windows was irretrievably lost. In such circumstances, a great number of courts have ordered sanctions—usually exclusion of the spoliator's expert testimony—to avoid an unfair situation where "the plaintiff has an expert who can testify about what he observed from [the destroyed evidence], and the defendants' experts can be challenged with the fact that they did not examine [it]." *Estate of Seaman ex rel. Seaman v. Hacker Hauling*, 840 F. Supp. 2d 1106, 1116 (N.D. Iowa 2011). A plaintiff's expert "should not have the benefit of relying on tests that his own unjustifiable actions prevented defendants from conducting." *Graff v. Baja Marine Corp.*, 2007 WL 6900792, at *4 (N.D. Ga. Dec. 20, 2007).¹⁸ And as the Fourth Circuit

¹⁸ *Accord, e.g., AMLI Residential Prop., Inc. v. Georgia Power Co.*, 667 S.E.2d 150, 154-55 (Ga. App. 2008) (affirming exclusion of evidence based on spoliation after expert's examination); *Cooper v. United Vaccines, Inc.*, 117 F. Supp. 2d 864, 874 (E.D. Wis. 2000) (dismissing case where plaintiff consumed only available sample of vaccine with *ex parte* testing); *Hamann v. Ridge Tool Co.*, 539 N.W.2d 753, 756-57 (Mich. App. 1995) (trial court abused its discretion "in permitting plaintiff to offer [expert] testimony about evidence that was lost," where "defendant was unable to challenge the evidence or respond to it"); *Allstate Ins. Co. v. Creative Env't Corp.*, 1994 WL 499760, at *8 (D.R.I. Apr. 1, 1994) ("Since defendants have been denied the opportunity to present a defense based on expert review of the pipe, [plaintiff] should be denied in the same manner"); *Dillon v. Nissan Motor Co.*, 986 F.2d 263, 267-69 (8th Cir. 1993);

recognized in *Vodusek*, spoliation sanctions also are warranted where a plaintiff's "preservation of the evidence at the scene was selective, facilitating conclusions which support Plaintiff's theory of liability and impeding the examination of any other theory." 71 F.3d at 156. *accord N. Assur. Co. v. Ware*, 145 F.R.D. 281, 284 (D. Me. 1993) (excluding expert testimony); *Citizens Ins. Co. of Am. v. Juno Lighting, Inc.*, 635 N.W.2d 379, 380-83 (Mich. App. 2001) (affirming sanction of dismissal where plaintiffs preserved light fixture for expert examination but "fail[ed] to preserve the wiring and mounting," which "made it impossible to determine" whether "modification or faulty installation ..., rather than a defect in the product," caused the fire); *MASB-SEG Prop./Cas. Pool v. Metalux*, 586 N.W.2d 549, 553 (Mich. App. 1998) (affirming exclusion of expert testimony in similar circumstances).

Finally, "the party seeking sanctions" for spoliation "need not prove bad faith" by the spoliator. *Turner v. United States*, 736 F.3d 274, 282 (4th Cir. 2013); *accord Vodusek*, 71 F.3d at 156. In fact, when spoliation prevents expert examination of evidence, "[w]hether the evidence was destroyed or lost accidentally or in bad faith" often "is irrelevant, because the opposing party suffered the same prejudice; specifically, defendant was unable to challenge the evidence or respond to it." *Hamann*, 539 N.W.2d at 756-57. Thus, even where improper destructive testing "was merely a result of a lack of communication," exclusion of the purported expert's testimony

Marrocco v. Gen. Motors Corp., 966 F.2d 220, 223 (7th Cir. 1992) (affirming order of dismissal as sanction for spoliation by destructive testing); *Am. Family Ins. Co. v. Vill. Pontiac-GMC, Inc.*, 585 N.E.2d 1115 (Ill. App. 1992) ("[A]n expert should not be permitted intentionally or negligently to destroy such evidence and then substitute his or her own description of it."); *Nally v. Volkswagen of Am., Inc.*, 539 N.E.2d 1017, 1021 (Mass. 1989) (spoliation of evidence by expert "should preclude the expert from testifying as to his or her observations of such items before he or she altered them and as to any opinion based thereon"); *Fire Ins. Exch. v. Zenith Radio Corp.*, 747 P.2d 911 (Nev. 1987) (affirming exclusion of expert testimony where plaintiff's actions "had the effect of reserving to itself all expert testimony based upon examination of the television set"); *Ralston v. Casanova*, 473 N.E.2d 444, 449-50 (Ill. App. 1984) (affirming exclusion based on destructive testing).

may be the only way to cure the grave unfairness from the resulting one-sided access to the evidence. *Dean ex rel. Williams v. Watson*, 1994 WL 698528, at *4 (N.D. Ill. Dec. 12, 1994). Here, then, the relevant question is not whether SGH was trying to destroy evidence—it is simply whether the destruction occurred, which it unquestionably has.

In short, SGH destroyed evidence relevant both to Plaintiffs’ theories of defect and to potential alternative causes. Such conduct

raises questions of profound importance to the integrity of the legal process. The potential for abuse in situations like this one is great. A fair trial requires that both parties be heard and that both parties be permitted wherever possible to marshal and present evidence relevant to their positions in the litigation. Parties to litigation should not be held accountable for the effect of such phenomena upon litigation potential.

Ware, 145 F.R.D. at 284. It would be palpably unfair to allow SGH to opine as to the windows’ alleged defects when SGH itself has prevented Pella from developing alternative arguments.

Aside from its unreliability, SGH’s testimony should be excluded for this reason alone. The fact that SGH failed to properly document where all this spoliation took place further compounds the prejudice. At a minimum, SGH’s conclusions regarding (1) the Romig home (where SGH tested, removed, and destroyed a window); (2) the homes identified in footnote 8 above (where SGH tore away aluminum cladding), and (3) the homes identified in footnote 7 above (where SGH tore away the materials around the window and then had contractors rebuilding it with new materials) should be excluded.

CONCLUSION

Expert testimony by Michael Louis, Daniel Clark, or Andrew Faulkner should be excluded from all cases in the MDL because it fails to satisfy the requirements of Rule 702 and *Daubert*.

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NELSON MULLINS RILEY & SCARBOROUGH LLP

s/Michael T. Cole

Michael T. Cole
G. Mark Phillips
Liberty Center, Suite 600
151 Meeting Street
Charleston, SC 29401
(843) 853-5200

FAEGRE BAKER DANIELS LLP

s/John P. Mandler

John P. Mandler
Shane A. Anderson
2200 Wells Fargo Center
90 South Seventh Street
Minneapolis, MN 55402-3901
(612) 766-7000

Attorneys for Defendant Pella Corporation